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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

WAYMO LLC,  
  
Plaintiff,  
  
v.  
  
UBER TECHNOLOGIES, INC.,  
OTTOMOTTO LLC; OTTO TRUCKING LLC,  
  
Defendants.

Case No. 3:17-cv-00939-WHA

**DEFENDANTS' UBER  
TECHNOLOGIES, INC. AND  
OTTOMOTTO LLC'S MOTION IN  
LIMINE NO. 27 TO EXCLUDE  
DR. HESSELINK'S SAVED  
DEVELOPMENT TIME OPINIONS**

Judge: The Honorable William Alsup  
Trial Date: December 4, 2017

**UNREDACTED VERSION OF DOCUMENT FILED UNDER SEAL**

Waymo's technical expert Dr. Lambertus Hesselink is the source of Waymo's saved development time estimates for trade secrets 25, 90, and 111 and Waymo's "bottleneck" theory for all asserted trade secrets. Under Dr. Hesselink's bottleneck theory, each trade secret in this case accelerated Uber's *entire* autonomous-vehicle ("AV") timeline by the amount of time that it would take for Uber to independently develop such trade secret. In granting Defendants' motion to exclude Michael Wagner, this Court assumed, without deciding, that these opinions were reliable:

To take the examples of asserted trade secret numbers 25 and 111, Wagner essentially parroted Hesselink's opinions that they saved Uber two years and one year of development time, respectively. ***Assuming for the sake of argument that Hesselink's opinions regarding saved development time were reliable in the first instance***, Wagner applied no "specialized knowledge" by simply multiplying the units of time espoused by Hesselink with dollar amounts lifted from the Qi slide.

(Dkt. 2176 at 9 (emphasis added; internal citation omitted).) In fact, Dr. Hesselink's opinions are not reliable.

Defendants move to exclude Dr. Hesselink's saved development time and bottleneck opinions pursuant to FRE 702 and FRE 403 on the basis that they are unreliable *ipse dixit* from a paid expert who has amply demonstrated himself to be unqualified to offer such opinions. Like Mr. Wagner, Dr. Hesselink "did not apply any coherent principle, methodology, theory, or technique, much less one possessing any discernible indicia of reliability." (*See Id.* at 3.) In fact, Dr. Hesselink dedicates only a single conclusory paragraph of his opening report to the purported saved development time for each of trade secret numbers 25, 90, and 111, and did not even explain his bottleneck assumption until his reply report.

Dr. Hesselink's saved development time and bottleneck opinions lead to an absurd result: just focusing on trade secrets 25, 90, and 111, according to Dr. Hesselink, Uber saved over *five years* of development time (2 years + 2 years, 5 months + 1 year) in its overall AV timeline.<sup>1</sup> If the launch timeline used in Waymo's and Mr. Wagner's damage model were accurate, that would mean Uber would have launched fully autonomous vehicles in 2011. (Gore Decl., Ex. 1 (Wagner

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<sup>1</sup> While Mr. Wagner assumed that the "acceleration" from each trade secret was non-cumulative (*see* Dkt. 2176 at 6), Dr. Hesselink makes no such qualification.

Dep.) at 60:20-61:1 (testifying that analysis he relied upon assumed that Uber would [REDACTED] [REDACTED]).) And by multiplying the aggregate “saved development time” with the amounts in the Qi slide, Waymo apparently intends to try to use Dr. Hesselink’s opinion to put an expert’s imprimatur on a damage model in excess of \$4 billion.

Dr. Hesselink’s conclusory opinions are wholly unreliable and emerge from a proverbial black box. An optical engineer, Dr. Hesselink has no experience with autonomous vehicles and has no basis to opine on how a particular trade secret could advance Uber’s entire AV timeline. He admits that he did not conduct any design cycle analysis and testified that he has “no direct knowledge of what the critical paths are in the development of that product or service or technology.” (Gore Decl., Ex. 2 (Hesselink Dep.) at 182:2-9.) To the extent that Dr. Hesselink relies on data at all, he simply parrots fact witness testimony and then invents wholly unsupportable conclusions from it. His saved development time and bottleneck opinions should be excluded.

#### **I. ARGUMENT**

This Court is familiar with Dr. Hesselink. He is a Waymo-paid technical expert and optical engineer who, among other things, Waymo “asked to render opinions relating to the economic value associated with the use of Waymo’s trade secrets in LiDAR devices.” (Gore Decl., Ex. 3 (Hesselink Opening Rpt.) at ¶ 450.) After summarizing evidence generally relating to the benefits of reduced development time, his report provides one-paragraph “analyses” of the saved development time associated with each of trade secrets 25, 90, and 111. His saved development time opinion relating to trade secret 90 is illustrative:

With regards to Trade Secret No. 90, as discussed above, Defendants’ accelerated their knowledge of [REDACTED] by acquiring Tyto LiDAR in the Spring of 2016. For several years prior to this, Tyto LiDAR—at the direction of Anthony Levandowski—exploited Waymo’s trade secret information regarding [REDACTED] in order to create a lower cost design for their “Owl” device. (*Supra* Section VII.H.4.) For example, at least by November 2013, Tyto LiDAR had “defined a plan to reduce the cost of [REDACTED] and bring the BOM cost down to \$9,500 by January 2014.” (Haslim Depo. Ex. 574.) Tyto’s continued work on lowering the cost of [REDACTED] from late 2013 until its acquisition by Ottomotto in May 2016 further enhanced Tyto’s value to Defendants. (8/9/2017 Haslim

Depo. at 571:25-572:5.) *It is therefore my opinion that the 2 year, 5 month period of time spent by Tyto exploiting Waymo's Trade Secret No. 90 is a reasonable approximation of the time saved by Defendants in not having to independently develop their own [REDACTED] from the ground up.*

(*Id.* ¶ 457 (emphasis added).) So, according to Dr. Hesselink, a [REDACTED] design that he acknowledges Uber abandoned in October 2016 (*id.* ¶ 452) — less than six months after Otto acquired Tyto — has saved Uber almost two-and-a-half years of development time.

For trade secret 25, Dr. Hesselink cites Waymo deposition testimony that “Waymo’s [REDACTED] from millions of miles driven by test vehicles over at least a two year period” — without doing any analysis of the specific portions of trade secret 25 that Waymo claims was misappropriated — and summarily concludes that “Defendants’ misappropriation of Trade Secret No. 25 saved them at least 2 years of development time in their self-driving vehicle program.” (*Id.* ¶ 455.)

Dr. Hesselink’s three-sentence saved development time analysis for trade secret 111 is similarly conclusory: he recites his “understand[ing]” that 510 Systems took a year to [REDACTED], states that this is consistent with his expectation, and concludes that trade secret 111 “saved Defendants at least 1 year of development time in their self-driving vehicle program.” (*Id.* ¶ 456.)

These opinions from Dr. Hesselink’s opening report are so conclusory and ambiguous that it was initially not even clear that Dr. Hesselink was advancing a radical theory that each trade secret advanced Uber’s *entire* autonomous vehicle program by these time periods. It is not until his reply report that Dr. Hesselink explicitly opined that the redesign of each and every trade secret in this case (not only trade secrets 25, 90, and 111) would set back Uber’s entire AV program:

*It is my opinion that the re-design times proposed by Defendants will at least result in an equivalent schedule impact to Defendants’ overall self-driving car program. In other words, every day of re-design time proposed by Defendants will result in a minimum of a day of delay in Defendants overall self-driving car technology, and most likely many more . . .*

(Gore Decl., Ex. 4 (Hesselink Reply Rpt.) ¶ 282.)

1 Mr. Wagner used these opinions as his sole basis to connect the independent development  
 2 timelines with the amounts in the Qi slide. (Gore Decl., Ex. 5 (Wagner Reply Rpt.) ¶ 72 (citing  
 3 Paragraph 282 of Hesselink’s Reply Report for the proposition that “Dr. Hesselink opines that  
 4 each of the trade secrets has accelerated Uber’s AV timeline”); Gore Decl., Ex. 1 at 84:14-22.)  
 5 With Mr. Wagner excluded, Waymo presumably will still try to improperly argue, based solely  
 6 on Dr. Hesselink’s opinion, that trade secrets 90, 25, and 111 are worth \$2.04 billion,  
 7 \$1.69 billion, and \$836 million, respectively, and that other trade secrets are worth hundreds of  
 8 millions of dollars. Waymo should not be permitted to do so.

9 The saved development time opinions disclosed in Dr. Hesselink’s opening report are  
 10 conclusory, methodologically unsound, and unreliable. Dr. Hesselink is simply parroting *Waymo*  
 11 and *Tyto* development timelines, saying that they sound reasonable to him, and then summarily  
 12 stating that Uber’s entire AV program will be accelerated by those periods of time. Dr. Hesselink  
 13 does not cite any evidence relating to Uber’s development cycle or timelines that would support  
 14 such a conclusion. And the fact that Waymo or Tyto may have *worked* on a technical feature  
 15 over the course of X years is of course not evidence that the specific technical feature at issue in  
 16 this case would have been a *bottleneck* for Uber’s *entire* AV program for X years.

17 Like Mr. Wagner, Dr. Hesselink does not apply “any coherent principle, methodology,  
 18 theory, or technique, much less one possessing any discernible indicia of reliability.” (Dkt. 2176  
 19 at 3.) Rather, he is offering “lawyer argument dressed up as expert opinion,” *id.* at 9, which is not  
 20 surprising, given that his opinions consistently advance the goals of the party paying him, as  
 21 evidenced in his curriculum vitae, in which he proclaims, “I have never lost a case.” (Gore Decl.,  
 22 Ex. 6 (CV of Professor Lambertus Hesselink, PHD) at 15.) Dr. Hesselink’s opinions should be  
 23 excluded “both because they do not qualify as expert testimony under FRE 702 and because they  
 24 are substantially more prejudicial than probative under FRE 403.” (Dkt. 2176 at 3); *see also*  
 25 *GPNE Corp. v. Apple, Inc.*, 12-CV-02885-LHK, 2014 WL 1494247, at \*4 (N.D. Cal. Apr. 16,  
 26 2014) (“Experts must follow some discernable methodology, and may not be ‘a black box into  
 27 which data is fed at one end and from which an answer emerges at the other.’”) (citations  
 28 omitted); *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (“Nothing in either *Daubert* or the

1 Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to  
 2 existing data only by the *ipse dixit* of the expert.”).

3 Dr. Hesselink’s reply report cannot—and does not—solve these deficiencies. **First**, his  
 4 bottleneck theory is a critical affirmative opinion that Waymo is using to support fantastical  
 5 damages numbers; Dr. Hesselink was obligated to substantiate those opinions in his opening  
 6 report. (Dkt. 563 (Case Management Order) ¶ 5.) There is nothing in Dr. Hesselink’s opening  
 7 report that can fairly be read to disclose his opinion that trade secrets 2, 7, 9, 13, and 14 also  
 8 accelerated Uber’s entire AV timeline. **Second**, the “analysis” in Dr. Hesselink’s reply report is  
 9 itself conclusory, methodologically unsound, and unreliable; he simply notes that the design of  
 10 one component may require modification of another related component or software so, *ipso facto*,  
 11 one day of redesign will set back Uber’s entire AV program by a day. (See Gore Decl., Ex. 4 at  
 12 ¶¶ 282-84.) **Third**, Dr. Hesselink, an optical engineer who has never worked on self-driving cars  
 13 (see Gore Decl., Ex. 2 at 25:3-6), is not qualified to offer such an opinion.

14 In order to reach such a sweeping conclusion that independent development of one  
 15 component could not be conducted in parallel with the development other components, an expert  
 16 would need to perform a detailed design cycle analysis and gain a complete understanding of how  
 17 each component of an autonomous vehicle relates to LiDAR and each specific trade secret, as  
 18 well as the development timelines for each. Dr. Hesselink did not perform any type of design-  
 19 cycle analysis,<sup>2</sup> and at his deposition he revealed himself to be completely uninformed about AV  
 20 design cycles and the relationship between AV components. When asked whether LiDAR is a  
 21 gating item in Waymo’s development of autonomous vehicles, he answered: “I have no direct  
 22 knowledge of what the critical paths are in the development of that product or service or  
 23 technology.” (Gore Decl., Ex. 2 at 182:2-9.) When asked whether the availability of LiDAR was  
 24 the reason Uber has not deployed fully autonomous vehicles, Dr. Hesselink responded: “I have  
 25 no insight . . . [I]f the LiDAR is a limiting factor, I would certainly not know.” (*Id.* at 182:10-20.)

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26  
 27 <sup>2</sup> (See *id.* at 265:12-21 (“I was not asked to kind of build a time sequence and find out how these  
 28 trade secrets were misappropriated and what the relation was — relationship was between  
 them.”).)

1 He acknowledged that Uber has been developing its self-driving capability using Velodyne  
 2 LiDAR. (*Id.* at 266:12-19.) And when asked if Uber would be able to deploy fully autonomous  
 3 vehicles today if Levandowski had cloned GBr3 in its entirety at Uber, Dr. Hesselink stated:

4 "I would think that would be unlikely. But I have no insight as to  
 5 what other things that Uber is working on, if they have a stellar  
 6 software team, if they have all the needed components to make a  
 7 self-driving car. So far I don't think I have seen an example that  
 8 they can do that. But again, I have no insight into the Uber  
 9 development program, other than what I have opined about."

10 (*Id.* at 182:21-183:14.) Dr. Hesselink further conceded that other AV work "may or may not have  
 11 been in parallel or in series," that it "depends on what the particular trade secrets are," and that  
 12 some "probably would have gone in parallel." (*Id.* at 264:11-265:11; *see also id.* at 271:17-  
 13 272:24.)

14 These are not deficiencies merely going to the weight of Dr. Hesselink's testimony. If an  
 15 expert is going to opine that each day of developing a single component will set Uber's entire AV  
 16 program back a day, he needs to use a reliable methodology and to show his work. Dr. Hesselink  
 17 has done neither, and there is nothing in his background that would make him qualified to offer  
 18 such an opinion. His saved development time opinions and bottleneck theory should be excluded.  
 19 *See Domingo v. T.K.*, 289 F.3d 600, 605 (9th Cir. 2002) ("[I]f an expert did not conduct his or her  
 20 own research, independent of the litigation, on the subject of the testimony, the district court must  
 21 determine whether there exists any 'objective, verifiable evidence that the testimony is based on  
 22 'scientifically valid principles.'" (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311,  
 23 1317-18 (9th Cir. 1995))).

## 24 **II. CONCLUSION**

25 For the foregoing reasons, Defendants respectfully request that this Court exclude  
 26 Dr. Hesselink's saved development time and bottleneck opinions. They do not qualify as expert  
 27 testimony under FRE 702, they are substantially more prejudicial than probative under FRE 403,  
 28 and they were not properly disclosed in accordance with the Case Management Order.

1 Dated: November 13, 2017

MORRISON & FOERSTER LLP  
BOIES SCHILLER FLEXNER LLP  
SUSMAN GODFREY LLP

4 By: /s/ William Christopher Carmody  
WILLIAM CHRISTOPHER CARMODY

Attorneys for Defendants  
UBER TECHNOLOGIES, INC. and  
OTTOMOTTO LLC

10 **ATTESTATION OF E-FILED SIGNATURE**

11 I, Michael A. Jacobs, am the ECF User whose ID and password are being used to file this  
12 Motion. In compliance with Civil L.R. 5-1(i)(3), I hereby attest that William Christopher  
13 Carmody has concurred in this filing.

15 Dated: November 13, 2017

/s/ Michael A. Jacobs  
MICHAEL A. JACOBS